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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,108	03/02/2004	Marc S. Weinberg	DPL-054	2444

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EXAMINER	
YU, MELANIE J	

ART UNIT	PAPER NUMBER
1641	

MAIL DATE	DELIVERY MODE
07/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/791,108	WEINBERG ET AL.	
	Examiner	Art Unit	
	Melanie Yu	1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 April 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) *1-12* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/2,6/30,5/10*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of group II, claims 13-21, in the reply filed on 23 April 2007 is acknowledged. Claims 1-12 have been withdrawn as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 13-15, 17 and 19-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Lee et al. (US 2004/0211251).

Lee et al. teach a sensor comprising: a diaphragm (thin, dome-shaped membrane, par. 62) comprising a conductive portion (elastomer membrane can be made to be conductive, par. 114); a selective coating on a first face of the diaphragm (membrane with chemical binding site, par. 128; par. 41; par. 61); and a counter electrode spaced from and in opposition to the diaphragm (second electrode distanced below the elastomer membrane, par. 114), wherein interaction of the selective coating with an analyte deforms the membrane (Fig. 20a shows no binding and Fig. 20b shows deformation of the membrane upon binding, par. 41) and thereby alters a capacitance of the sensor so as to indicate a degree of interaction (capacitance is measured between elastomer membrane and second

electrode, par. 114; change in capacitance indicates change in stress on membrane and measures concentration of analyte, par. 134; par. 41; par. 132).

With respect to claims 14 and 15, Lee et al. teach the diaphragm being compositionally uniform and being conductive (membrane is made of PDMS and is conductive, par. 114).

With respect to claim 17, Lee et al. teach means for equalizing pressure on each face of the diaphragm (capillary tube connected to reaction chamber and gas flow through an aperture in the substrate is used to fill the chamber with gas to increase the pressure in the chamber, but are also means that are capable of equalizing pressure on each face of the diaphragm, par. 151).

Regarding claim 19, Lee et al. teach the coating covering the first face of the diaphragm, and this includes a coating covering a central half of the first face (molecules providing reaction sites are coated on exterior membrane surface, par. 16).

3. With respect to claims 20 and 21, Lee et al. teach the device further comprising circuitry for reporting the presence of the analyte (yes/no detection, par. 133) and the circuitry is also capable of reporting concentration of analyte (surface stress can correspond to concentration, par. 134). Although Lee et al. do not specifically teach that the concentration is measured, Lee et al., at paragraph 134, teach that surface stress can correspond to the concentration of analyte in a sample. Since the circuitry of Lee et al. is capable of determining the surface stress, the circuitry is also capable of determining the concentration of analyte in a sample.

4. Claims 13 and 16 are rejected under 35 U.S.C. 102(e) as being unpatentable over Wohlstadter et al. (US 6,673,533).

Wohlstadter et al. teach a diaphragm comprising a conductive portion (col. 78, lines 58-59); a selective coating on the first face of the diaphragm (col. 78, lines 59-67), wherein

the selective coating covers only a portion of the first face of the diaphragm (patterned on binding domains indicates that reagents are not covering the entire first face, furthermore, binding reagents, 69097A, in Fig. 69 do not cover the entire first face); and a counter electrode spaced from an in opposition to the diaphragm (counter electrode 69093 is spaced from the diaphragm, 69092, Fig. 69; col. 79, lines 6-14). Although Wohlstadter et al. do not specifically teach interaction of the selective coating with an analyte deforming the diaphragm and thereby altering a capacitance of the sensor so as to indicate a degree of interaction, such a limitation is drawn to an intended use of the sensor. Claim 13 is drawn to a product, and the product must only be capable of performing the intended use. Since Wohlstadter et al. teach the product limitations required by claim 13, Wohlstadter et al. is capable of performing the recited intended use.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (US 2004/0211251) in view of Babacz (US 5,308,649).

Lee et al. teach a counter electrode and means that are capable of equalizing pressure on each face of the diaphragm, but fail to teach the means comprising perforations through the counter electrode.

Babacz teaches perforations in an electrode (col. 3, lines 9-30), in order to provide pressure control in a hollow chamber.

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include in the counter electrode in the sensor of Lee et al., perforations in the electrode as taught by Babacz, in order to provide accurate control of the pressure within a chamber. Although Babacz does not specifically teach the perforations being for pressure equalization, the perforations in the electrode are for controlling pressure in a chamber and are therefore capable of equalizing pressure on each side of the diaphragm.

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie Yu whose telephone number is (571) 272-2933. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on (571) 272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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